

1 1. In a computerized system for enabling a consumer to digitally filter multimedia
2 content that is comprised of video content, audio content, or both, and wherein the
3 consumer's computer system includes a processor, a memory, a decoder, and an output
4 device for playing the multimedia content, a method for assisting the consumer to
5 automatically identify portions of the multimedia content that are to be filtered and to
6 thereafter automatically filter the identified portions, the method comprising the acts of:

7 creating an object store which can be loaded into a memory of the computer
8 system of the consumer, the object store including a plurality of navigation objects,
9 ^{navigation object}
10 each of which defines a portion of the multimedia content that is to be filtered by
11 defining a start position and a stop position and a specific filtering action to be
12 performed on the portion of the multimedia content defined by the start and stop
13 positions for that portion;

14 decoding the multimedia content on the computer system of the consumer
15 and as the multimedia content is output from a decoder of the computer system,
16 continuously updating a position code;

17 as the multimedia content is decoding, continuously monitoring the position
18 code and comparing it with each navigation object to determine whether the position
19 corresponding to the position code is within one of the navigation objects;

20 when the position code is determined to be within a navigation object,
21 activating the filtering action assigned to the particular navigation object in order to
22 filter the multimedia content for that portion defined by the navigation object; and

23 transferring the multimedia content to an output device, whereby the
24 multimedia content is played at the output device excluding each portion thereof
which is filtered in accordance with the plurality of navigation objects.

1 2. A method as recited in claim 1 wherein the filtering action is either skipping or
2 reframing the portion of the multimedia content defined by the particular navigation object.

3
4 3. A method as recited in claim 2, wherein the filtering action is skipping the
5 portion of the multimedia content defined by the particular navigation object, the method
6 further comprising the acts of:

7 terminating the decoding of the multimedia content at the start position of the
8 particular navigation object;

9 advancing to the stop position of the particular navigation object; and

10 resuming the decoding of the multimedia content at the stop position of the
11 particular navigation object.

12
13 4. A method as recited in claim 1 wherein the multimedia content is comprised of
14 one or more channels of audio content and the filtering action assigned to the particular
15 navigation object is muting at least one channel of the audio content for the portion of the
16 audio content defined by the particular navigation object.

17
18 5. A method as recited in claim 1 wherein the decoder includes a vendor
19 independent interface and wherein interaction with the decoder occurs through the vendor
20 independent interface.

21
22 6. A method as recited in claim 1 wherein consumer's computer system comprises
23 one of (i) components of a personal computer, (ii) components of television system, and (iii)
24 components of an audio system.

1 7. A method as recited in claim 1 wherein a plurality of object stores are available,
2 the method further comprising the acts of:

3 retrieving the title of the multimedia content from the decoder; and
4 selecting the object store from the plurality of object stores based on the title
5 of the multimedia content retrieved from the decoder.
6

7 8. A method as recited in claim 1 wherein the consumer's computer system
8 includes a source of the multimedia content comprising one of a DVD, a CD, a random
9 access memory, a hard drive, a removable disk storage medium, and a tape storage medium.
10

11 9. A method as recited in claim 1 wherein the position codes are time codes.
12

13 10. A method as recited in claim 1 wherein the plurality of navigation objects are
14 based at least in part on the age appropriateness of the portions of the multimedia content
15 defined by the plurality of navigation objects, age appropriateness being determined
16 according to either industry or community standards.
17

18 11. A method as recited in claim 1 wherein the object store at least initially is located
19 at a remote system, and wherein the consumer's computer system and the remote system are
20 interconnected through a communication link, the method further comprising the act of
21 accessing the object store over the communication link.
22
23
24

1 12. A method as recited in claim 1 wherein navigation object includes a
2 configuration identifier, the method further comprising the acts of:

3 assigning a configuration identifier to the decoder;

4 comparing the configuration identifier of the particular navigation object with
5 the configuration identifier of the decoder to determine if the particular navigation
6 object applies to the decoder; and

7 determining that the particular navigation object applies to the decoder based
8 on the configuration identifier of the particular navigation object matching the
9 configuration identifier of the decoder.

10
11 13. A method as recited in claim 1 further comprising the acts of:

12 displaying a representation of the plurality of navigation objects, the
13 representation including a description of each of the plurality of navigation objects;

14 receiving a password to authorize disabling at least one of the plurality of
15 navigation objects;

16 receiving a response to the representation of the plurality of navigation
17 objects, the response identifying the at least one of the plurality of navigation objects
18 to be disabled; and

19 disabling the at least one of the plurality of navigation objects such that the
20 video action specified by the at least one of the plurality of navigation objects is
21 ignored.

1 14. In a computerized system for enabling a consumer to digitally filter audio
2 content, wherein the consumer's computer system includes a processor, a memory, a
3 decoder, and an output device for playing the audio content, a method for assisting the
4 consumer to automatically identify portions of the audio content that are to be filtered and to
5 thereafter automatically filter the identified portions, comprising the acts of:

6 creating an object store which can be loaded into a memory of the computer
7 system of the consumer, the object store including a plurality of navigation objects,
8 each of which defines a portion of the audio content that is to be filtered by defining
9 a start position and a stop position and a specific filtering action to be performed on
10 the portion of the audio content defined by the start and stop positions for that
11 portion;

12 decoding the audio content on the computer system of the consumer and as
13 the audio content is output from a decoder of the computer system, continuously
14 updating a position code;

15 as the audio content is decoding, continuously monitoring the position code
16 and comparing it with each navigation object to determine whether the position
17 corresponding to the position code is within one of the navigation objects;

18 when the position code is determined to be within a navigation object,
19 activating the filtering action assigned to the particular navigation object in order to
20 filter the audio content for that portion defined by the navigation object; and

21 transferring the multimedia content to an output device, whereby the
22 multimedia content is played at the output device excluding each portion thereof
23 which is filtered in accordance with the plurality of navigation objects.
24

1 20. In a computerized system for enabling a consumer to digitally filter video
2 content, wherein the consumer's computer system includes a processor, a memory, a
3 decoder, and an output device for playing the video content, a method for assisting the
4 consumer to automatically identify portions of the video content that are to be filtered and to
5 thereafter automatically filter the identified portions, comprising the acts of:

6 creating an object store which can be loaded into a memory of the computer
7 system of the consumer, the object store including a plurality of navigation objects,
8 each of which defines a portion of the video content that is to be filtered by defining
9 a start position and a stop position and a specific filtering action to be performed on
10 the portion of the video content defined by the start and stop positions for that
11 portion;

12 decoding the video content on the computer system of the consumer and as
13 the video content is output from a decoder of the computer system, continuously
14 updating a position code;

15 as the video content is decoding, continuously monitoring the position code
16 and comparing it with each navigation object to determine whether the position
17 corresponding to the position code is within one of the navigation objects;

18 when the position code is determined to be within a navigation object,
19 activating the filtering action assigned to the particular navigation object in order to
20 filter the video content for that portion defined by the navigation object; and

21 transferring the multimedia content to an output device, whereby the
22 multimedia content is played at the output device excluding each portion thereof
23 which is filtered in accordance with the plurality of navigation objects.
24

1 21. A method as recited in claim 20 wherein the position codes are time codes.

2
3 22. A method as recited in claim 21 wherein the filtering action is either skipping or
4 reframing the portion of the video content defined by the particular navigation object.

5
6 23. A method as recited in claim 22, wherein the filtering action is skipping the
7 portion of the multimedia content defined by the particular navigation object, the method
8 further comprising the acts of:

9 terminating the decoding of the video content at the start position of the
10 particular navigation object;

11 advancing to the stop position of the particular navigation object; and

12 resuming the decoding of the video content at the stop position of the
13 particular navigation object.

14
15 24. A method as recited in claim 23 wherein the video content includes audio content
16 that corresponds to the video content, the method further comprising the acts of:

17 terminating the decoding of the audio content at the start position of the
18 particular navigation object;

19 advancing to the stop position of the particular navigation object; and

20 resuming the decoding of the audio content at the stop position of the
21 particular navigation object.

1 25. A method as recited in claim 20 wherein a plurality of object stores are available,
2 the method further comprising the acts of:

3 retrieving the title of the video content from the decoder; and

4 selecting the object store from the plurality of object stores based on the title
5 of the video content retrieved from the decoder.

6
7 26. A method as recited in claim 20 wherein the decoder includes a vendor
8 independent interface and wherein interaction with the decoder occurs through the vendor
9 independent interface.

10
11 27. A method as recited in claim 26 wherein the consumer's computer system
12 includes a source of video content comprising one of a DVD, a CD, a random access
13 memory, a hard drive, a removable disk storage medium, and a tape storage medium.

14
15 28. A method as recited in claim 27 wherein consumer's computer system comprises
16 one of (i) components of a personal computer, (ii) components of a television system, and
17 (iii) components of an audio system.

1 29. A method as recited in claim 28 further comprising the acts of:

2 displaying a representation of the plurality of navigation objects, the
3 representation including a description of each of the plurality of navigation objects;

4 receiving a password to authorize disabling at least one of the plurality of
5 navigation objects;

6 receiving a response to the representation of the plurality of navigation
7 objects, the response identifying the at least one of the plurality of navigation objects
8 to be disabled; and

9 disabling the at least one of the plurality of navigation objects such that the
10 video action specified by the at least one of the plurality of navigation objects is
11 ignored.

1 30. In a computerized system for enabling a consumer to digitally filter multimedia
2 content that is comprised of video content, audio content, or both, and wherein the
3 consumer's computer system includes a processor, a memory, a decoder, and an output
4 device for playing the multimedia content, a method for assisting the consumer to
5 automatically identify portions of the multimedia content that are to be filtered and to
6 thereafter automatically filter the identified portions, the method comprising steps for:

7 providing an object store which can be loaded into a memory of the computer
8 system of the consumer, the object store including a plurality of navigation objects,
9 each of which defines a portion of the multimedia content that is to be filtered;

10 using a decoder of the consumer's computer system to determine when the
11 multimedia content decoded by the decoder is within the portions of the multimedia
12 content defined by the plurality of navigation objects;

13 when multimedia content decoded by the decoder is determined to be within
14 the portion of the multimedia content defined by a particular navigation object,
15 filtering the multimedia content; and

16 causing the multimedia content to be played at an output device, whereby the
17 multimedia content played at the output device excludes each portion thereof which
18 is filtered in accordance with the plurality of navigation objects.

19
20 31. A method as recited in claim 30 wherein consumer's computer system comprises
21 one of (i) components of a personal computer, (ii) components of a television system, and
22 (iii) components of an audio system.
23
24

1 32. A method as recited in claim 30 wherein each of the plurality of navigation
2 objects includes (i) a start position and a stop position for defining the portion of the
3 multimedia content that is to be filtered, and (ii) a specific filtering action to be performed
4 on the portion of the multimedia content defined by the start and stop positions for that
5 portion, and wherein the step for using the decoder comprises the acts of:

6 decoding multimedia content; and

7 continuously updating a position code as multimedia content is decoded by
8 the decoder.

9
10 33. A method as recited in claim 32 wherein the multimedia content includes video
11 content and wherein the step for filtering the multimedia content comprises the acts of:

12 comparing the position code with each navigation object;

13 determining the position corresponding to the position code is within a
14 particular navigation object;

15 terminating the decoding of the video content at the start position of the
16 particular navigation object;

17 advancing to the stop position of the particular navigation object; and

18 resuming the decoding of the video content at the stop position of the
19 particular navigation object.
20
21
22
23
24

1 34. A method as recited in claim 32 wherein the multimedia content includes one or
2 more channels of audio content and wherein the step for filtering the multimedia content
3 comprises the acts of:

4 comparing the position code with each navigation object;

5 determining the position corresponding to the position code is within a
6 particular navigation object;

7 muting at least one channel of the audio content for the portion of the audio
8 content defined by the particular navigation object.

9
10 35. A method as recited in claim 32 wherein the position codes are time codes.

11
12 36. A method as recited in claim 30 further comprising a step for deactivating at least
13 one of the plurality of navigation objects.

14
15 37. A method as recited in claim 30 wherein the decoder includes a vendor
16 independent interface and wherein interaction with the decoder occurs through the vendor
17 independent interface.

18
19 38. A method as recited in claim 30 wherein the consumer's computer system
20 includes a source of the multimedia content comprising one of a DVD, a CD, a random
21 access memory, a hard drive, a removable disk storage medium, and a tape storage medium.

1 portion thereof which is filtered in accordance with the plurality of navigation
2 objects.

3
4 40. A system as recited in claim 39 wherein the decoder and the processor means are
5 located remotely from each other, the system further comprising:

6 a communication link between the decoder and the processor means; and
7 processor means for interacting with the decoder over the communication
8 link.

9
10 41. A system as recited in claim 40 wherein the processor means is located in a
11 remote control device.

12
13 42. A system as recited in claim 40 wherein the processor means is located in a
14 server system, the server system being capable of interacting with one or more decoders
15 over the communication link.

1 43. A computerized system for enabling a consumer to digitally filter multimedia
2 content that is comprised of video content, audio content, or both, wherein the computerized
3 system assists the consumer in automatically identifying portions of the multimedia content
4 that are to be filtered and to thereafter automatically filter the identified portions, the
5 computerized system comprising:

6 multimedia source means for providing video content;

7 decoder means for decoding multimedia content received from the
8 multimedia source;

9 output means for playing multimedia content received from the decoder
10 means;

11 multimedia navigation means for associating filtering actions with navigation
12 portions of the multimedia content, the navigation portions of the multimedia content
13 being defined by the multimedia navigation means; and

14 processor means coupled to the decoder and the memory for:

15 using a decoder to determine when the multimedia content decoded
16 by the decoder is within the portions of the multimedia content defined by the
17 plurality of navigation objects;

18 when multimedia content decoded by the decoder is determined to be
19 within the portion of the multimedia content defined by a particular
20 navigation object, filtering the multimedia content; and

21 causing the multimedia content to be played at an output device,
22 whereby the multimedia content played at the output device excludes each
23 portion thereof which is filtered in accordance with the plurality of navigation
24 objects.

1 44. A system as recited in claim 43 wherein the decoder means and the processor
2 means are located remotely from each other, the system further comprising:

3 communication means for exchanging data between the decoder and the
4 processor means; and

5 processor means for interacting with the decoder over the communication
6 means.

7
8 45. A system as recited in claim 44 wherein the processor means is located in a
9 remote control device.

10
11 46. A system as recited in claim 44 wherein the processor means is located in a
12 server means, the server means being capable of interacting with one or more decoder means
13 over the communication means.

as the multimedia content is decoding, continuously monitoring the position code and comparing it with each navigation object to determine whether the position corresponding to the position code is within one of the navigation objects;

1 when the position code is determined to be within a navigation object,
2 activating the filtering action assigned to the particular navigation object in
3 order to filter the multimedia content for that portion defined by the
4 navigation object; and

5 transferring the multimedia content to an output device, whereby the
6 multimedia content is played at the output device excluding each portion
7 thereof which is filtered in accordance with the plurality of navigation
8 objects.

9
10 48. A computer program product as recited in claim 47 wherein the position codes
11 are time codes.

12
13 49. A computer program product as recited in claim 47 wherein the filtering action is
14 skipping the portion of the multimedia content defined by the particular navigation object,
15 the method comprised further of machine-executable instructions for performing the acts of:

16 terminating the decoding of the multimedia content at the start position of the
17 particular navigation object;

18 advancing to the stop position of the particular navigation object; and

19 resuming the decoding of the multimedia content at the stop position of the
20 particular navigation object.
21
22
23
24

1 50. A computer program product as recited in claim 47 wherein the multimedia
2 content is comprised of one or more channels of audio content and the filtering action
3 assigned to the particular navigation object is muting, the method comprised further of
4 machine-executable instructions for performing the act of muting at least one channel of the
5 audio content for the portion of the audio content defined by the particular navigation object.
6

7 51. A computer program product as recited in claim 47 wherein the decoder includes
8 a vendor independent software interface and wherein the method is comprised further of
9 machine-executable instructions for performing the act of interacting with the decoder
10 through the vendor independent software interface.
11

12 52. A computer program product as recited in claim 47 wherein the method is
13 comprised further of machine-executable instructions for performing the act of:

14 displaying a representation of the plurality of navigation objects, the
15 representation including a description of each of the plurality of navigation objects;

16 receiving a password to authorize disabling at least one of the plurality of
17 navigation objects;

18 receiving a response to the representation of the plurality of navigation
19 objects, the response identifying the at least one of the plurality of navigation objects
20 to be disabled; and

21 disabling the at least one of the plurality of navigation objects such that the
22 video action specified by the at least one of the plurality of navigation objects is
23 ignored.
24

1 53. A computer program product as recited in claim 47 wherein the method is
2 comprised further of machine-executable instructions for performing the act of:

3 retrieving the title of the multimedia content from the decoder; and

4 selecting the plurality of navigation objects based on the title of the
5 multimedia content retrieved from the decoder.

6
7 54. A computer program product as recited in claim 47 wherein the object store at
8 least initially is located at a remote system, and wherein the consumer's computer system
9 and the remote system are interconnected through a communication link, the method
10 comprised further of machine-executable instructions for performing act of accessing the
11 object store over the communication link.